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Magnetotranport properties of magnetic InMnSb semiconductor films. NIDHI PARASHAR, NIKHIL RANGARAJU, Northwestern University, BRUCE WESSELS — Magnetotransport properties of the magnetic semiconductor $In_{1-x}M_xnSb$ were investigated for temperatures from 1.4 to 300 K and magnetic fields up to 18 T. Films are p-type, with carrier concentration $\sim 10^{19}$ cm^{-3}, and exhibit anomalous Hall Effect at room temperature. At low temperatures and low fields, negative magnetoresistance of 4 percent was observed, for a film with x = 0.035. For higher fields, a positive magnetoresistance of 9 percent was observed. At 300 K, positive magnetoresistance with hysteretic behavior was observed. The magneto-resistive properties are analyzed with respect to recent models of spin-dependent scattering in magnetic semiconductors.

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